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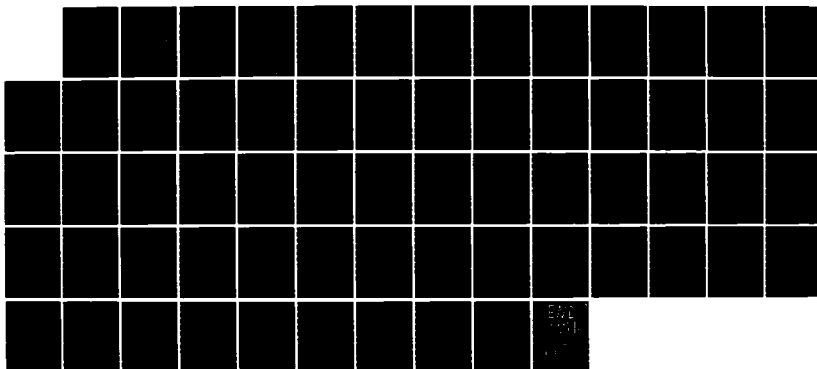
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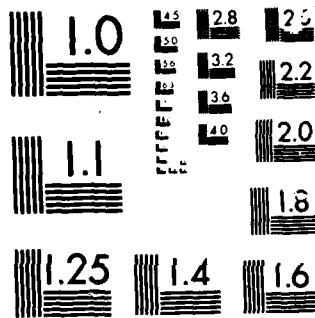
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Bethesda, Maryland 20084



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TOFACS SOFTWARE DEVELOPMENT AND
ENHANCEMENTS FOR FY83-FY85

by

Bob Wybraniec

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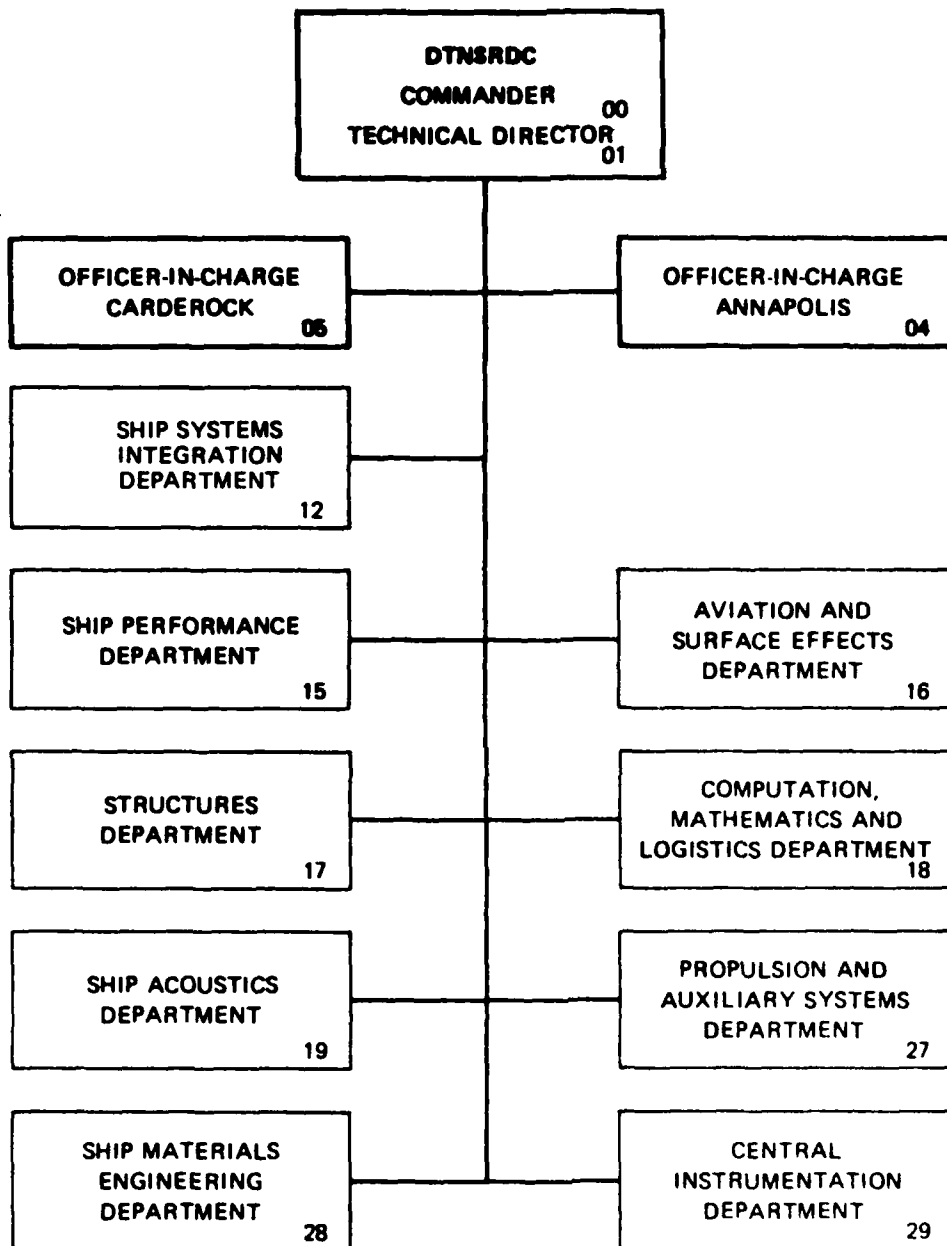
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COMPUTATION, MATHEMATICS, AND LOGISTICS DEPARTMENT
DEPARTMENTAL REPORT

February 86

DTNSRDC/CMLD-86/06

MAJOR DTNSRDC ORGANIZATIONAL COMPONENTS



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ABSTRACT

The Technical Office Automation and Communication System (TOFACS) is a pilot system that has been in operation at DTNSRDC for approximately five years. TOFACS provides users with workstations (terminal, modem and printer) and gives each user access to a comprehensive set of office automation capabilities such as electronic mail, document processing, calendar management, ticklers, and phone message management. Enhancements and development of new capabilities has improved the system and increased its overall functionality. This report chronicles the software enhancements and development made to TOFACS during fiscal years 1983 through 1985.

1. INTRODUCTION TO TOFACS

1.1. OBJECTIVE

The Technical Office Automation and Communication System (TOFACS) is one of the Center's major commitments to exploit modern computer and office automation technologies. TOFACS is a pilot system and is managed by code 1822 of the Computer Sciences & Information Systems Division of CMLD (Computations, Mathematics and Logistics Department). The primary objective of TOFACS is to design, develop, and implement an office automation system serving both Center sites which will assist the Center's administrative, managerial, technical, and clerical personnel with their work and improve their productivity.

1.2. SOFTWARE

In September 1980, the Center acquired the Transportation Automated Office System (TAOS) from the Department of Transportation. The system has been modified and enhanced to meet the needs of the Center employees, who operate in a technical, research oriented environment. TOFACS consists of many application software programs which run under the UNIX Berkley 4.1 operating system. Almost all of the TOFACS application software is written in the "C" programming language.

The TAOS software required an extensive amount of work by TOFACS to improve capabilities/functionality, improve on design and coding deficiencies, and find/fix bugs/errors. Even though the software required extensive enhancement, it was the most advanced Office Automation software that was in production use (at the time) and for which TOFACS could acquire the source code. By adapting the TAOS source code TOFACS was able to quickly implement a state of the art OA system and at the same time mold the system to the needs of DTNSRDC.

The TAOS software was converted to run on a PDP 11/70. TOFACS then migrated the converted TAOS to a Vax 11/780 and this became the first version of the current TOFACS. The original TAOS software bears little resemblance to the current operational TOFACS. In the course of approximately five years TOFACS has added hundreds of enhancements and bug fixes and added many new capabilities. This report documents the major software development and enhancement efforts made during fiscal years 83 through 85.

1.3. HARDWARE

TOFACS currently has two Vax 11/780 computers at Carderock and one at Annapolis. Most users communicate with TOFACS using Vt100 compatible terminals via 1200-baud dial-up lines. A few experimental workstations are connected to TOFACS via 9600-baud LAN Bus Interface Units. In addition, some users at both sites are hard-wired directly to a TOFACS Vax configuration. Eventually, all users will access TOFACS via 9600-baud communications speed through a local area network, DTNET (The David Taylor Network).

2. TOFACS SOFTWARE ENHANCEMENT PROCEDURES

Beginning on 10/1/82 TOFACS implemented a detailed organized approach towards controlling the development and enhancements of all TOFACS applications software. This approach insured that TOFACS followed sound Configuration Management and Quality Assurance procedures. The following procedures were implemented at that time.

TOFACS Software Enhancement Procedures

All TOFACS software enhancements shall follow the procedures described herein. The personnel involved in these procedures shall be the software

specialist (a.k.a. the enhancer), the administrator, and a review committee consisting of four people. The enhancer shall be responsible for making all software changes and implementing proper configuration management and quality assurance methods (not described herein) for all TOFACS software under his/her control. The administrator shall be responsible for the overall operation of the enhancement procedures. The review committee shall be responsible for checking all enhancements for errors, ease of use, etc.

Further personnel responsibilities and the complete TOFACS software enhancement procedures are described below.

Procedures for Defining, Reviewing, Testing, and Releasing Enhancements

1. The administrator shall collect all suggestions for potential enhancements. Once each month (if necessary) the administrator shall solicit suggestions for enhancements from the TOFACS staff. It is the responsibility of each person on the TOFACS staff to provide the administrator with their own and user suggestions for enhancements. This may be done on a piecemeal basis (via electronic mail) or once a month.
2. The administrator shall consolidate all suggestions and once each month (if necessary) meet with the enhancer, TOFACS project manager and 182 division head to prioritize and determine which enhancements (if any) are to be implemented.
3. The administrator shall provide the enhancer with a description of the enhancements to be implemented. This description shall include a functional description and general design of the approved enhancements.
4. The enhancer shall develop a detailed implementation design for all approved enhancements before starting any software changes.
5. On major enhancements a design review shall be scheduled to ensure the integrity of the function(s) in the implementation. The enhancer shall give a brief presentation on each new function that has been designed. The design review meeting shall consist of the enhancer, administrator, TOFACS project manager and 182 division head.
6. In the event the design review requires changes in any design, the enhancer shall develop a new design based on the results of the design review.

7. The enhancer shall perform the necessary software changes and freeze the software at this point (level A). The enhancer shall give the administrator a description (function and usage) of the enhancements.
8. The administrator shall forward the entire description (provided by the enhancer) to each member of the review committee.
9. Each member of the review committee has three days to test enhancements for errors, ease of use, etc.
10. The administrator shall schedule a meeting with all members of the review committee to discuss their comments, suggestions, etc. in an open forum atmosphere. This meeting shall be scheduled on the day after the end of the three day review period.
11. The administrator shall writeup a summary of the results of the review meeting and forward a copy to each member of the review committee, the 182 division head and the TOFACS project manager.
12. The administrator and the enhancer both review the summary of results of the review meeting.
13. If there are no problems worthy of attention, the administrator meets with the TOFACS project manager and 182 division head for an OK to release enhancements to the public. If the OK is given, enhancements are released to all users. If the OK is not given, action is taken as appropriate.
14. If there are problems worthy of attention, the enhancer performs the necessary software changes and the software is again frozen, but now at level B.
15. The administrator prepares and forwards a new description (only reflecting the new changes) to the review committee. Their review is limited to one less day than was previously allowed.
16. Nine thru fifteen are repeated until each member of the review committee is satisfied or the administrator overrides any objection (after conferring with the TOFACS project manager and 182 division head).
17. The review process (nine thru sixteen) should be completed within two weeks and have no more than three iterations.

3. SOFTWARE RELEASES

For FY83 and FY84, software development, enhancements, and bug fixes were released on the first day of each month. A detailed writeup of each release that required notification to users was placed in the TOFACS Bulletin Board. The following sections list only those software mods announced in the TOFACS Bulletin Board. Many other mods (transparent to the user) were made during this time period and will be described in a future Technical Memorandum. There is a separate section for each TOFACS module thus making it easy for the reader to isolate a module or a particular part of a module. The following sections list all announcements in the TOFACS Bulletin Board from 10/1/82 to 9/30/85. In some cases the original Bulletin Board announcement has been rewritten to better fit the format of this report and provide background, where necessary. Within each (sub)section, items are listed in reverse chronological release order so that the most recent releases are listed first followed by older releases.

4. OVERALL TOFACS

Some enhancements affect a group of TOFACS modules or most all TOFACS frames. The mods described in this section were made to improve the overall efficiency, response, functionality and ease of use of a large set of TOFACS modules/frames.

4.1. LISTING OF 100 FILES/DOCUMENTS

OLD: If you have more than 100 files or more than 100 documents in a specific file, you cannot list the file and/or document names.

NEW: You can list the first 100 files or documents in any TOFACS frame where the listing files/documents option is available. The most you can list is the first 100 (the others are not lost; their names just can't be listed). To view the ones not shown you have to delete from the list.

It is recommended that users not go over this 100 limit since file/doc management is much easier when there aren't many documents in a specific file. The limit of listing at most 100 files and/or documents was retained in order to urge users to be more efficient and improve overall system efficiency/response.

Files and/or documents can be listed in various frames of the following commands: del, doc, fmt, fpm, memo, prt, rdoc, rmsg, rtmsg, rvmsg, spell, rbb, arch, rph, rvph, tick, & rtick.

4.2. PERFORMANCE ENHANCEMENTS

A study to improve the performance of TOFACS modules was conducted and the recommended performance enhancements have been implemented. These enhancements affect the efficiency/response/execution/etc. of all TOFACS modules. Most noticeable of the enhancements to users is the speedy validation/sending of mail.

4.3. DIRECT EXIT TO UNIX - PF4

The option "PF4 - Exit to Unix" has been added to most TOFACS frames. "PF4" enables the user to return back to the prompt (\$,->,etc.) from any frame within TOFACS (except help frames and while in the editor). When you are at the prompt you are at the TOFACS command level.

In order to exit back to the prompt (" \$" "->" etc.) from any frame within TOFACS (excluding "help" frames and while in the editor), press function key "PF4" on the mini keypad. The system will automatically exit from the frame you're in and return back to the prompt. This saves time by immediately returning you to the prompt without having to "0 - Exit" one frame at a time.

4.4. HELP

Various help frames have been rewritten to improve on their understanding and to fix errors.

4.5. MISCELLANEOUS

- a. Appropriate error messages are now displayed when illegal file or document names are specified (embedded "/", etc.) within the many TOFACS modules that require file name and document name entries.
- b. Send mail messages (smsg), read mail messages (rmsg), review mail messages (rvmsg), distribution lists (dlist), calendar (cale), read calendars (rcal), add calendars (acal), and meeting scheduler (msch):
OLD: After filling in field data, going to the help frame, and returning, all field data entered is lost.

NEW: All previously entered field data is retained.

OLD: If an unused function key is pressed, the user is not notified of the use of an invalid key.

NEW: Pressing of an unused function key displays a "Selection error" message for most unused keys.

- c. OLD: If you try to create a new file with an illegal file name, the message "mkdir: cannot access [filename]" appears on file name line. However, the message "New file created" appears on help line.

NEW: The message "illegal file name" is displayed to the right of the help line.

The above happens for all frames where you can create a new file.

5. ELECTRONIC MAIL

Electronic mail is highly used by virtually all users and thus it is most important that mail operate in the most efficient and responsive manner.

Enhancements to TOFACS mail have focused in two areas:

- a. Provide optimum efficiency and response.
- b. Provide the best functional capabilities.

Extensive work has been done to improve the internal structure, processing, response, etc. of electronic mail. In addition, many new capabilities and improved functionality has been added in an orderly process. The following sections describe the growth, improvements, additional capabilities and overall improved system performance of electronic mail.

5.1. OVERALL

5.1.1. Mail Time Stamp

OLD: The time stamp for mail messages is always EDT.

NEW: The time stamp for mail messages designates EST or EDT, whichever is in effect.

5.1.2. Performance Enhancements

5.1.2.1. Header Protection

Further mods have been made to electronic mail to protect mail box headers from getting zeroed out when file/function limits are exceeded. These problems were inherent in the old mail and have now been cleaned up.

5.1.2.2. Improved Response and Efficiency

- a. The dynamic allocation feature within the new mail has been released. For each user access of the TOFACS mail module the dynamic allocation feature saves disk space by allocating the precise amount of space needed based on the size of the users mailbox. All this is transparent to the user. The saving of disk space for all mail use improves the response time since less disk access time is needed while processing the mail functions.
- b. The new mail enhancements improve the efficiency of mail and substantially increase the speed of accessing/reading/deleting/etc. messages. The new mail enhancements deal with the internal structure and manipulation of mailboxes. Thus these enhancements are transparent to all users.
- c. A special file of user names has been constructed which drastically improves the validating/sending of mail.
- d. Group distribution lists are no longer validated when mail is sent. A user validates his/her personal distribution lists only once per creation/updating. Your personal distribution lists are validated by hitting "Key 4 - Validate personal distribution list" in the "View/Edit Distribution List" (dlist) frame. If a user fails to validate a distribution list, there is no notification of errors when an erroneous list is used.
- e. For users of snd/msg, a personal distribution list can be validated by executing the command "dist_chk". See "man dist_chk" for proper usage.
- f. Defense Data Network (DDN & formerly ARPANET - MILNET) host names are no longer validated when sending mail; the "mailer" informs users via a mail message (usually within ten minutes) of an invalid address.

- g. When reading a mail message that sends a receipt back to the sender, the function of sending the receipt is handled by the system in background mode. This speeds up the users processing because he/she can continue without waiting for the delay caused by the receipt.

5.1.2.3. "rstrmail" No Longer Available

Several security mods have been implemented to protect your mailbox from being damaged or "lost".

The "rstrmail" function (which restored "lost" mailboxes) is no longer needed or available. A mailbox should no longer be lost or zeroed out because within the new mail system mailboxes are no longer overwritten when the user reads or deletes messages.

5.1.2.4. ".mail" No Longer Exists

All .mail files have been removed. ".mail" used to be a user's mailbox. During installation of the new mail, your old mailbox was converted to the new mail structure. Thus your old mailbox (.mail) was copied and then deleted.

5.1.2.5. New Mail

OLD: Once you're in the read messages module, you have to exit "read messages" and reenter to have new messages displayed in your mail list.

NEW: When you return to the main rmsg frame (from reading/replying forwarding, etc.), any new mail received (while you have been processing your mail) is now included in your mailbox list.

5.1.3. 600 Message Limit

The new message limit has been increased to 600 messages (from 200). When this limit is reached, a warning message is issued when you try to read your mailbox. You then cannot access your mailbox and have to contact TOFACS support.

5.1.4. File Messages in Document

a. OLD: You cannot append a message to a document that does not exist.

NEW: "Key 3 - File by appending message(s) to document" now creates

and appends if the document does not exist. The help frame has been rewritten to provide a more informative explanation of the two main options: replace and append.

- b. OLD: In filing a message using an illegal character in the file or document frame, a misleading/erroneous message is displayed.

NEW: The correct error message is displayed to the user:

Invalid author

or Invalid file name

or Invalid document name

5.1.5. Milnet Mail

TOFACS users may now send or receive mail messages via MILNET mail. MILNET is part of the Defense Data Network (DDN). DDN MILNET mail allows mail to/from other users on other hosts within the worldwide DDN MILNET. Mail addresses are of the form "username@hostname". You must know the correct "username" and "hostname" to be able to send mail to a user on the DDN MILNET. The "hostname" address for TOFACS is "dtnc". Please read the help frame in the main frame of send mail messages (smg) for help in sending mail to users via MILNET mail.

5.1.6. Standard for the Format of ARPA Internet Text Messages

The entire electronic mail system has been modified to conform to the Standard for the Format of ARPA INTERNET Text Messages. This standard specifies a syntax for text messages that are sent among computer users within the framework of "electronic mail". Send mail messages (smg), read mail messages (rmg), review mail messages (rvmg), distribution lists (dlist), and UNIX mail (msg & snd) have been modified.

Some of the changes are transparent to the user, some cosmetic, and some require learning the new formats. Following is an explanation of the major differences between the old and new electronic mail. Please read the "send mail messages" (smg) and "view/edit distribution lists" (dlist) help frames for a further explanation of TOFACS electronic mail. Please read "man msg snd" for a further explanation of UNIX mail.

- a. The "To:", "CC:", "Subj:", and "From:" fields are longer thus permitting more info/usernames for each field.
- b. When reading a message, the "From:" field now displays the full name of the user instead of the login id.
- c. All fields accept free format data. For example, entering data in the "CC:" field as -

```
CC:          user1,          us
          er2,          user3.....
          .....
```

is acceptable. However, this type of free format usage is not recommended.

- d. SEND MAIL MESSAGES (smsg) accepts distribution lists as well as usernames in the "To:", and "CC:" fields. For example,


```
To: list1:;, user2, user3, list4:;
```

 sends mail to all users in list1 and list4 and also sends mail to user2 and user3. list1 and list2, for example, could be


```
list1: user4, user6, user7, user8
list2: user9, user10, user1
```

A single distribution list may be up to 10000 characters long.

The new distribution list format is completely different from the old format. Please read the help frame of the "view/edit distribution list" frame for help in setting up a new distribution list.

```
*****
CONVERSION OF OLD DISTRIBUTION LISTS:
*****
```

THOSE USERS WISHING TO KEEP THEIR OLD DISTRIBUTION LISTS MUST EXECUTE THE "cvmail" COMMAND TO CONVERT FROM THE OLD TO THE NEW. PLEASE READ THE "dlist" HELP FRAME.

- e. SEND MAIL MESSAGES (smsg) validates usernames, lists, and usernames/ARPA-hosts before sending the message out. If an invalid username or list is found when trying to send mail, the user is requested to correct the invalid entry before the mail can be sent.

- f. "FORWARD MAIL" has new field headings in forwarded message:
"Resent-from", "Resent-to", and "Resent-CC".
- g. "REPLY TO" mail replies to messages using the ARPA INTERNET RFC822 formats. The "CC:" field can accept up to 10000 characters.
- h. READ MAIL MESSAGES (rmsg) handles all messages conforming to the ARPA INTERNET RFC822 protocols and its variations.
- i. UNIX MAIL (snd & msg) has also been enhanced to conform to the ARPA INTERNET standard. Please read "man msg snd" for an explanation of the new enhancements. The major changes are:
 - s[end] is required to send the mail,
 - A[nswer] sends to all recipients,
 - a[nswer] sends only to "TO" list recipients.

5.1.7. Automatic Carbon Copy

Each time mail is sent using the TOFACS send mail message (smsg), you have the option to automatically receive a carbon copy of the message without having to add your name to the "CC" list. To do this your ".profile" must be changed (see below). If you always wish to automatically receive a carbon copy, please call TOFACS support to have your ".profile" changed. If you wish to change your ".profile" yourself, please add the following two lines to your ".profile":

```
MAIL='copy_all'
export MAIL
```

Once your ".profile" is changed, you must log in again to initialize the new auto CC feature.

Automatic carbon copies are only sent when using the send mail module (smsg). No automatic carbon copies are sent when forwarding mail. When an automatic carbon copy message is sent, your name does not appear on the "CC" list so this feature is transparent to the sender and recipient.

Each user has a default ".profile" assigned to them when they are first put on TOFACS. The ".profile" is a file in each users login file system and it defines and initializes parameters that are used while each user is logged in and using TOFACS.

5.1.8. Mailbox Management

IT IS HIGHLY RECOMMENDED AND DESIRED THAT YOU KEEP YOUR MAILBOX AS SMALL AS POSSIBLE TO SAVE VALUABLE FILE SPACE AND IMPROVE YOUR RESPONSE TIME AND EASE OF USE IN YOUR MAIL MANIPULATIONS. PLEASE DELETE UNUSED AND UNNEEDED MESSAGES. MESSAGES NEEDED FOR FUTURE USE SHOULD BE SAVED OR FILED.

5.1.9. Miscellaneous

- a. OLD: The Electronic Mail frame of "t" mode has the option "Review messages" to review messages in your "saved" mailbox.
NEW: Change this option to "Review saved messages". This better describes the option.
- b. OLD: After filling in field data, going to the help frame, and returning, all field data entered is lost.
NEW: All previously entered field data is retained.
- c. OLD: No message is displayed when an unused function key is selected.
NEW: Pressing of an unused function key displays a "Selection error" message for most unused keys.
- d. OLD: Review saved messages (rvmsg), retrieve, retrieve messages from document, exit sequence erroneously returns to your regular mailbox.
NEW: This sequence correctly returns to your "saved" mailbox.

5.2. READ MESSAGES - rmsg

5.2.1. Filing Messages

- a. reply to - You may file a replied to message only after it has been sent. When filed, the entire reply mail message (headers, from, to, cc, etc. & message text) is filed.
- b. forward - You may file a forwarded message only after it has been sent. When filed, the entire forwarded mail message (headers, from, to, cc, any comments, and the entire forwarded message(s)) is filed.

5.2.2. User Search

- a. "Key 2 - User search" has been added to the forward mail frame.
- b. In reply mail, "Key 5 - Format message" has been replaced by "Key 5 - User search".

5.2.3. Longer Data Lines

OLD: Mail and graffiti truncate lines longer than 80 columns that were created using editors with line capacity up to 256 characters.

NEW: When reading mail or graffiti, header and text lines received may be up to 256 characters/line. Mail and graffiti folds and displays lines greater than 80 columns and less than 257 columns.

Mail messages (and graffiti) cannot be read if a line within the message is greater than 256 characters.

5.2.4. Reply/Forward Exit/Return/Go to

a. Key 8 has been added to the forward and reply frames within electronic mail:

1. While in the forward frame, "Key 8 - go to reply message" allows the user to reply to the current message that is being forwarded.
2. While in the reply frame, "Key 8 - go to forward message" allows the user to forward the current message that is being replied to.

This gives the user the capability to both "forward" and "reply to" a message without having to exit back to the message list frame and then return to reply or forward, whichever is applicable.

b. "working...please wait" has been added (and the display speeded up) for returning/exiting from "reply" and "forward" frames in mail and going to reply/forward from forward/reply.

5.2.5. Comments Preceding Forwarded Message

OLD: Comments added to a forwarded message are placed at the end of the forwarded message.

NEW: Comments with a forwarded message are appended BEFORE the forwarded message. If you're in the forward message frame and you want to append comments before the message, hit Key 4 (Create/edit comments before message) and you're brought into the editor. Type in your appending comments, exit and save. When you then hit key 6 to forward mail, your comments are automatically appended BEFORE the

forward message as it is sent. Having comments before the forwarded message allows the sender to explain what is being forwarded and better prepare the receiver for the forwarded message.

5.2.6. Exit and Unmark in Reply/Forward

When in reply or forward, "Key 9 - Exit and unmark" option has been added to permit you to exit to next message or higher level and at the same time unmark the message you were replying to or forwarding.

5.2.7. View the Original Message While in Reply/Forward

If you are replying to or forwarding a message and are in the editor to reply or add forward comments, you may now view the message you are replying to or forwarding by doing the following:

*DISPLAY MESSAGE ON SCREEN

- Position cursor at point on the screen where you want the message to be displayed.
- Hit the ARG key on the mini-keypad.
- Type ".r .reply" or ".r .forward" for viewing reply or forward message, respectively.
- Hit the CALL ED key on the mini-keypad.

The message you are replying to or forwarding is brought onto the screen at the line where the cursor was positioned.

*DELETION OF DISPLAYED MESSAGE:

You must delete the viewed message before leaving the editor or it will be part of the message when sent. Text is deleted by:

- moving the cursor to the first line of a block of text you wish to delete and marking the line with the MARK function key.
- Then move the cursor to the last line you wish to delete, and
- Hit the CLOSE key.
- If you want to look at the deleted text again, hit the ARG key followed by the DROP key, or perform the original sequence again.

If you are replying to or appending comments to a forwarded message, there is sometimes a need to refer to the original message while you are composing your reply or comments. This mod allows you to display the original message whenever the need arises.

5.2.8. Automatic Deletion of CC List in Reply Frame

In the reply frame of rmsg (read mail messages), the "PF3 - Delete CC: names" option has been added. To remove all names from the CC: field, hit key PF3 and all names will be deleted. If you then send mail (via key 6) your reply will only be sent to the names listed in the To: field. If you delete all CC: names via key PF3, you still have the option to enter a new list of names in the CC: field before sending your reply. Please read the help frame for a further explanation.

If you are replying to a message, you might want your reply to only be sent to the originator of the message and not to others who received the message. This mod gives a quick way of removing all the "CC:" names from your reply.

5.2.9. Editing of Long CC List in Reply Frame

In the reply frame of rmsg (read mail messages), if the CC: list is too long (greater than 195 characters), the CC: list will not appear in the CC: field. A short explanation of your options will appear instead. If you wish to delete the CC: list before sending mail, hit key PF3. If you wish to view and/or edit the long CC: list, hit key PF1 and the CC: list will be displayed. You will be in the TOFACS editor and be able to edit the CC: list if you so choose. Please read the reply help frame for directions on viewing and/or editing a long CC: list.

5.2.10. Miscellaneous

- a. When reading a mail message, the "From:" field contains the full name and the user name. When the full name is embedded with period(s), the full name is enclosed in quotes in order to handle non-standard names.
- b. OLD: When in the main read mail messages (rmsg) frame and a user hits retrieve, retrieve message(s) from a document, and exits, the user is returned to the main read mail messages frame.

NEW: This sequence returns to the retrieve messages from document frame.

- c. The "working...please wait" message is displayed for exit, exit & unmark, and PF4 keys of "read message", "reply to message", and "forward message" frames.
- d. System exits to the next higher level when last marked mail message is unmarked.
- e. After exiting from "forward" and "reply", the next marked message is displayed or the system returns to the next higher level if there is no "next marked message".

- f. OLD: After exiting from "retrieving", the system returns you to the prompt (command level).

NEW: After exiting from "retrieving", the system returns you to the previous frame.

- g. Display message "working...please wait" after "delete" (Key 5) and "confirm" (Key 9) have been depressed in the "Read Messages" frame.
- h. Display message "working...please wait" after "Send Message" (Key 6) has been depressed in the "Forward Messages" and "Reply Message" frames.

- i. OLD: When you reply (or forward) to a message sent by snd, the "subject" of the message is deleted.

NEW: The "subject" is displayed in the reply (or forward) frame.

- j. OLD: If you print a lengthy message and then immediately page (key 7) to read the message on the screen, paging brings other marked messages (or garbage) onto the screen.

NEW: Paging works correctly.

- k. OLD: In filing a message using an illegal character in the file or document name, an erroneous message is displayed.

NEW: The message "Invalid file name" or "Invalid document name" is displayed.

- l. In some cases, reading a message that had a document inserted into it did not properly display on the screen. This has been corrected.
- m. In some cases, the system erroneously reports that you "You have new mail", "You have phone calls", "New actions due", etc. This problem has been corrected.

n. The "reply msg" and "forward msg" keys have been deleted and a "paging" function has been added. "Key 4 - Reply" has been replaced with "Key 4 - Next Page" (scroll up) and "Key 6 - Forward" has been replaced with "Key 6 - Previous Page" (scroll down). This enables the user to scroll thru mail entries.

o. The cursor remains at the same location after returning from "help", "read", "file", and "retrieve".

p. NOTE: The following is no longer applicable; it was superseded by later enhancements.

A warning message is generated whenever a mail box has more than 120 messages.

5.3. SEND MESSAGES - smsg

5.3.1. File Messages in Document

If you file a message before sending it, only the message text is filed. If you file a message after sending, the entire mail message (headers, from, to, cc, etc. & message text) is filed.

5.3.2. User Search

"Key 8 - User search" has been added to enable users to perform a search for users login id and other information via surname or code. To do a user search via code or surname hit Key 8 and fill in the fields as explained at the top of the User Search frame.

5.3.3. Are You Sure?

- a. After composing a document and before sending it out, if you try to compose another document the system will display "are you sure ?" In case you hit the wrong key, this gives you a chance to correct the error and save your document.
- b. After composing a message, if you accidentally press the exit key before sending the message, you have a second chance (are you sure?) to recover from the mistake.

5.3.4. Miscellaneous

- a. Display message "Working .. please wait" after "Send Message" (Key 6) has been depressed.
- b. "Key 8 - Read Message" has been deleted.
- c. Change "Key 8 - Read Message" to "Key 8 - Read Mailbox". Read message is ambiguous and misleading.

5.4. RETRIEVE MESSAGES - rtmsg

- a. This is a new command that permits the user to go directly to the "retrieve messages from document" frame. In the past you had to first "read mail messages" (rtmsg) and then hit "key 9 - Retrieve". You still may retrieve when in the main "read mail messages" (rtmsg) frame.
- b. When retrieving messages from a document, the exit sequence has been corrected to bring up the correct mailbox.

5.5. DISTRIBUTION LISTS - dlist

- a. The "user search" function has been added to the distribution list frame.
- b. The "dlist" command has been added and enables the user to go directly to the distribution list frame.
dlist - Distribution list for sending mail.
Usage: (1) dlist
- c. OLD: After exiting from "SELECT DISTRIBLISTS", the "subject" is lost.
NEW: The "subject" is retained.
- d. Allow users to create (key 3) and update (key 4) distribution list in the "SELECT DISTRIBLISTS" frame.
- e. Allow users to request "receipt" via "distriblists".

5.6. COUNT MAIL MESSAGES - cmsg

The new command "cmsg" displays the message

"x" messages in MAILBOX

where "x" is the number of messages currently in your TOFACS mailbox.

5.7. GROUP MAIL

TOFACS has a new group mail capability that permits a user to define a group of users that would manage his/her mailbox. The projected use for this capability is that of a manager having his/her mailbox managed by a secretary. Use of group mail will be described within the manager/secretary context.

If a manager wanted to have his/her mailbox managed by his/her secretary, TOFACS would define a group (owner is manager and member is secretary) for use under group mail. The manager would then type in "grpmail groupname" to set up his/her mailbox for group mail use. "grpmail" need only be done once and group mail is set for all future use. A special file (gworking) is created in the manager's file system. gworking is the only file (other than the mail files) that the secretary has read and/or write permissions for. The secretary can file and retrieve messages only to/from the managers gworking file. In addition documents can only be stored/retrieved to/from the manager's gworking file. The secretary can:

- a. read messages for manager
- b. forward messages for manager
- c. reply to messages for manager
- d. delete messages for manager
- e. file messages for manager into manager's gworking file
- f. retrieve messages of manager from manager's gworking file
- g. save messages for manager
- h. review messages of manager
- i. insert documents from manager's gworking file into message
- j. use manager's distribution list

A secretary who is a member of a manager's group mail would do the following each time he/she needed to access the manager's mailbox:

- a. ngrp "groupname"
- b. rmsg "manager" or rtmsg "manager" or rvmsg "manager"
- c. perform mail functions on b.
- d. exit to UNIX prompt
- e. type CTRL D to exit group and return to secretary's login directory

Any manager wishing to use the group mail capability should contact your TOFACS rep for help in setting up your group.

5.8. FORWARD MAIL COPY - fwdmail

The new forward mail copy module (fwdmail) has been released. "fwdmail" permits user-1 to designate user-2 and a time period within which user-2 will receive copies of all user-1's electronic mail. Within the time period specified, each mail message sent to user-1 is also sent to the specified user-2 (the recipient). This capability is most useful while on leave or travel and access to TOFACS is not possible. A user may then designate a recipient who will be responsible for reading and acting upon the other users mail. Please read the fwdmail help frames for a detailed explanation of how fwdmail works.

5.9. RESTORE MAILBOX - rstrmail

NOTE: This function is no longer available within TOFACS since the internal operations which damaged or lost mailboxes were eliminated in the major redesign of the internal mail systems software. However, this function is documented here because it was a significant achievement and a valuable function during the period it was in operation.

The new "rstrmail" command enables the user to restore a lost or damaged mailbox. If your mailbox is lost (empty) while you're reading mail messages (rmmsg), immediately shut your terminal off (do not exit back to UNIX prompt), login again, and type "rstrmail". Your mailbox will be restored to the state it was in when you last entered the read mail module. In addition, any incoming new mail between loss of mailbox and "rstrmail" will be appended to your mail.

If your mailbox becomes damaged you can call TOFACS support and they will restore it to its last proper state. You may also do the following as soon as you notice your mailbox is damaged:

- a. shut terminal off (do not exit back to UNIX prompt)
- b. login
- c. type "rm .mail" (removes damaged mailbox)
- d. type "rstrmail" (restores mailbox)

Your mailbox will then be restored to the state it was in when you last entered the read mail module. However, new incoming mail between the point you entered the mail module and until you type "rm .mail" will be lost.

6. SEARCH FOR USERS LOGIN ID - search

The User Search (search) capability allows users to search for information on users/codes. Search allows you to get the login name, code, full name, phone and machine the user is on for any TOFACS user.

- a. Users may now search by any variation of code, e.g. search on code 18 displays all users in code 18, and search on 184 displays all users in code 184, etc.
- b. If you don't know the correct spelling of a user's surname, you may now enter as many beginning letters that you are sure of and the search is made on all surnames beginning with those letters.
- c. An improved tabulated list of hits is displayed for each search. The list contains the login id, name, code, phone, and machine. For machine designation, "tofacsA" is Vax A, "dtcr" is Vax B, "tofacsC" is Vax C.
- d. "Key 2 - Search by surname (sort by surname)" sorts the tabulated list by surname.
- e. There are two methods to search by code:
 - Key 3 - Search by code (sort by code)
 - Key 4 - Search by code (sort by code and surname)Key 3 sorts the tabulated list by code. Key 4 sorts the tabulated list first by code then by surname.
- f. "Key 6 - Print search report" has been added. This option permits you to print the results of the last search performed.
- g. OLD: If there are no hits for a search, "nothing found" is momentarily flashed on the screen and disappears.
NEW: This message remains on the screen.
- h. Please read the Help frame for a complete explanation and guide to the proper use of the search function.
- i. NOTE: The following is no longer applicable; it was superseded by later enhancements.

The "search" command has been changed. It now functions in exactly the same manner as "user search" in smsg. A user search frame is displayed, fields for surname or code entry are available, and option keys perform the appropriate function. Read the Help frame for an explanation of how to use search.

- j. NOTE: The following is no longer applicable; it was superseded by later enhancements.

This is a new command that searches for a users login id and other information via surname or code. At the command level, type in "search" followed by carriage return (CR) and TOFACS responds with:

Search a user's login id by surname or code:

type s for surname, c for code, q for quit -

If you type s, TOFACS responds with "Type surname - " at which point you should type the surname of the person (CR) whose user id and other info you are seeking:

If you type c, TOFACS responds with "Type code - " at which point you should type the DTNSRDC numeric code (CR) for a list of users who belong to that code.

If you type q, TOFACS brings you back to the command level.

For all search "hits", the login id, name, code, and phone number is displayed. In searching by code, the specific code must be given.

For example, code of "18" will not give any hits, but code of "1826" will list all users who belong to code 1826.

7. DOCUMENT PROCESSING

Document processing is also highly used by TOFACS users. The enhancements made to document processing have focused on improving the functional capabilities and ease of use of the various modules/frames involved with the management and use of documents. Several new capabilities (spelling check, archiving, etc.) were added to expand the functionality of document management.

7.1. OVERALL

7.1.1. Page Scrolling in "List Files/Documents"

"Key 4 - Next page" and "Key 6 - Previous page" functions have been added to both the "List document names in file" function and the "List file names for author" function. These "list" functions are used in many TOFACS modules. The user now has the capability to page forward and backward through the list of names.

7.1.2. Miscellaneous

- a. Several minor changes have been made to some of the document processing frames to make the options more descriptive.
 1. Key 3 of the main TOFACS menu now reads: "File/Document Processing".
 2. Hitting key 3 in the main TOFACS menu or typing "doc" now brings up the "FILE/DOCUMENT PROCESSING" frame. Within this frame Key 2 has been changed to read: "Compose memos". Key 3 has been changed to read "Document editing/management".
 3. Hitting the "Compose memos" key in "FILE/DOCUMENT PROCESSING" or typing "memo" now brings up the "TYPE MEMORANDA" frame. Within this frame Key 4 now reads: "View/edit existing memo", Key 5 has been deleted, and Key 6 now reads: "Print memo".
 4. Key 3 in the new "DOCUMENT EDITING/MANAGEMENT" frame now reads: "View/edit existing document".
 5. The various help frames within the document processing modules have been changed to reflect the option changes and improve on the explanations.
- b. In the DOCUMENT PROCESSING frame of the TOFACS menu oriented option (t),
 1. "Key 8 - List and delete files/documents" has been added to permit menu users to list and delete files and documents.
 2. "Key 9 - Spelling check" has been added to permit menu users to perform spelling checks on their documents.
- c. If a user attempts to access a document for which he/she does not have the proper access permission, the message "document permission denied" is displayed. Previously the erroneous and misleading message "document missing" was displayed.
- d. The format document frame has been corrected from displaying "-t" in the owner field.

7.2. Compose Memos or Reports - memo

- a. While trying to "Insert a document" within the "memo" module, the problem of not being able to "List document names" has been corrected.
- b. The main memo frame (Type Memoranda) has been enhanced to provide the similar functionality and keystroke use as the main "doc" frame (Document editing/management). The "Copy or rename memo" function has been added (key 4) and some other functions have new key designations in order to be consistent with the "doc" frame.
- c. "Compose new report or letter" (Key 3) and "Text editing" (Key 9) have been replaced by "Insert document" and "delete document" functions, respectively.
- d. A "file name" option has been added to allow access to any other file (not just the file "memo").

7.3. Read Document - rdoc

A "Copy document" function (Key 4) has been added to allow copying of other users documents provided the document(s) to be copied has read permission for other users.

7.4. Print Documents - prt

- a. OLD: If an erroneous file or document is entered and you try to print, the function field information that was changed is lost.
NEW: All prt function fields that were changed are retained.
- b. Usage: (1) prt
(2) prt [file name] [document name]
(3) prt [author] [file name] [document name]
- c. OLD: When a wrong key is hit, the file name is replaced by "working" or another name.
NEW: The file name is retained.
- d. OLD: If an illegal file or document name is entered, the fields entered return to the default setting.
NEW: The field info is retained.
- e. OLD: If something other than "local" or "remote" is entered, the print job is sent to the remote printer when printed.
NEW: Only "local" or "remote" is acceptable.

7.5. LIST/DELETE FILES/DOCUMENTS - del

- a. GO TO LIST FILES - In the LIST/DELETE DOCUMENTS frame,
"Key 9 - Go to list files" has been added to permit users to list files without having to return to the main del frame.
- b. GO TO LIST DOCUMENTS - In the LIST/DELETE FILES frame,
"Key 9 - Go to list documents" has been added to permit users to list documents without having to return to the main del frame.
- c. WORKING...PLEASE WAIT - The "working...please wait" message is now displayed for several function keys.
- d. OLD: When a wrong key is hit, the file name is replaced by "working" or other name.
NEW: The file name is retained.
- e. Allow users to view a document before deleting.
- f. del - List/Delete files and documents.
Usage: (1) del
(2) del [author] [file name]

7.6. SPELLING CHECK - spell

- a. SORT PERSONAL DICTIONARY - The spelling checker (spell) has added "Key 9 - Sort personal dictionary". This helps users create, update, and maintain their personal dictionaries by sorting all entries.
- b. If a user tries to print "spellout" and it doesn't exist, the message "report doesn't exist" is displayed.
- c. EDIT PERSONAL DICTIONARY - "Key 4 - Edit personal dictionary" has been added. This enables users to create/modify their own dictionary to add acronyms and other "words" that are not found in the UNIX dictionary. The spelling checker then checks both the UNIX dictionary and the user-defined personal dictionary for misspelled words.
- d. PRINT DOCUMENT - "Key 6 - Print document" has been added to enable users to print the document they are checking for spelling mistakes.
- e. OLD: If you try to print "spellout" and it doesn't exist, the message "cat: can't open file" appears on the top of the screen and the message "printed" also appears.
NEW: The message "report doesn't exist" is displayed.

7.7. COPY AND/OR RENAME DOCUMENT

- a. For copying or renaming documents thru doc, rdoc, or t mode, if the destination document exists, the message
DESTINATION DOC EXISTS: ARE YOU SURE?(yes=9;no=0)
is displayed to confirm or negate the copy or rename function. This gives the user added protection in mistakenly overwriting an existing document.
- b. In the COPY AND/OR RENAME DOCUMENT FRAME, the cursor can now be moved up to the "Source document" field. Users can now copy or rename documents without having to bounce back and forth between the doc frame and the copy and/or rename document frame.

7.8. MODIFY FILE PERMISSIONS (fpm)

- a. In the CHANGE/VIEW ACCESS PERMISSIONS ON A DOCUMENT frame:
 - Add "Owner:" field to permit users to view the document permissions of another user.
 - "Key 7 - List document names of file" has been added to permit users to list documents for the specific file.
 - "Key 8 - List file names for owner" has been added to permit users to list files for the owner.
 - "Key 9 - Go to change permissions of files" has been added to permit users to change/view permissions on files without having to return to the main fpm frame.
- b. In the CHANGE/VIEW ACCESS PERMISSIONS ON A FILE frame:
 - Add "Owner:" field to permit users to view the file permissions of another user.
 - "Key 8 - List files of the owner" has been added to permit users to list files for the owner.
 - "Key 9 - Go to change permissions of documents" has been added to permit users to change/view permissions on documents without having to return to the main fpm frame.

7.9. ARCHIVE FILES/DOCUMENTS - arch

- a. ARCHIVE IN "t" MODE - The archive facility can now be accessed via "Key 4 - Archive/Retrieve/List/Delete Files/documents" in the "Document Processing" frame.

- b. The new archive facility (arch) allows users to transfer (archive) TOFACS files/documents from the TOFACS Vax computers to the CDC mass store facility and then retrieve them when they are needed. This frees up needed space on the TOFACS computers and improves overall system storage/response/efficiency/etc. Users are urged to archive files/documents that are not needed in day to day use or need to be saved for use at a future time. Users are also urged to delete files/documents that are not needed. File space on the TOFACS computers is limited.

DELETE UNUSED/UNNEEDED FILES/DOCUMENTS.

ARCHIVE FILES/DOCUMENTS THAT ARE NEEDED FOR FUTURE USE

When a file/document is archived it is removed from the TOFACS computer and placed in the mass store. An archived file/document may be retrieved any time and in most all cases the retrieval shall be immediate. There will be cases when a retrieval will be queued and retrieved minutes later (< 5 min.). In this case the user will be notified of the retrieval via mail.

Besides file management and archiving/retrieving files/documents, arch permits the user to view or print a document without retrieving it. In this way users can store documents in the archive and view/print them as the need arises and at the same time save valuable file space on the TOFACS computers. Once a file/doc is no longer needed it should be deleted from the archive.

Please be sure to read the arch help frames for a detailed explanation of archive use and capabilities. Please contact TOFACS support if you have any questions.

7.10. RESTORE DOCUMENT - rstr

This command enables users to restore documents "lost" due to disconnect or line drops while editing a file/document. Type rstr after the \$ prompt and the system will guide you through a series of questions and answers.

8. TOFACS EDITOR - ted

The TOFACS editor (ted) is the core of mail and document processing. This editor provides basic editing capabilities that meet the needs of the vast

majority of TOFACS users. Though it does not compare with the capabilities of a word processing package, its ease of use and understanding enables most users to easily prepare messages and create/update documents. The TOFACS editor is proprietary and TOFACS only has the executable version and no source code. For this reason no mods have been made to the editor.

8.1. BELL MARGIN

- a. The default bell margin for the TOFACS editor (ted) has been changed from column 73 to column 70. The default of 73 caused too many words to require splitting near the end of each line.
- b. The default bell margin for the TOFACS editor (ted) has been changed from column 68 to column 73. This will enable users to automatically fit more words/line and therefore close up the white space in the right margin.

8.2. COMMAND MODE

A "file name" option has been added. This command is only available through the TOFACS command mode. Usage of the command "ted" is either "ted [document name]" or "ted [file name] [document name]".

9. CALENDAR

The calendar module has been overhauled by redesigning/improving its internal structure, improving its functionality and capabilities, adding new capabilities, improving its interface to the meeting scheduler and the "stat" command and login news, and providing for a calendar-to-mail interface. The bulk of these mods occurred over about a six month period with iterative releases made month by month.

9.1 OVERALL

9.1.1. CALENDAR LIMIT INCREASED

The calendar function now accepts up to 400 entries. A warning message is displayed when 200 entries are reached and an error message is displayed when 400 entries are reached. Please delete old calendar entries!

9.1.2. Main Calendar Frame

Some of the keys in the main calendar frame have been switched to conform with other TOFACS modules and other calendar frames:

- Key 4 -- Add new entries
- Key 5 -- Delete entries for dates specified
- Key 6 has been removed
- Key 9 -- Print calendar for dates specified

9.1.3. Full Calendar Format Revision

The "participants", "purpose", "location", and "notes" fields have been shortened to two lines per field. Each field is now limited to size shown in the calendar display. Calendar entries created with the previous format may have portions of these fields truncated.

9.1.4. Printing a Calendar

- a. CONDENSED PRINTOUT - The appearance of the condensed printout has been improved as follows:
 - There is a page break at the end of each page.
 - A new month starts on a new page.
 - There is a page heading for each page showing the month and year.
 - If a month is continued onto a new page a "month continued" heading is printed.
 - There is a separator line between weeks.
- b. The problem of a misalignment of the printout when printing a private entry has been corrected.

9.1.5. Privileges

- a. The print and see/update functions within calendar now have identical functionality: any user can view and/or print another user's calendar entries except for private entries (which can be viewed/printed only by the calendar owner or group member(s)).
- b. A calendar owner and those belonging to the owner's calendar group have the same privileges: view/update/print/add/delete/etc. This includes private entries.

9.1.6. Delete Entry

When you delete entries from a calendar the "Entries deleted" message is displayed for a successful delete and the "No entry deleted" message is displayed for an unsuccessful delete.

9.1.7. Miscellaneous

- a. Several efficiency mods have been implemented to improve and speedup the performance displaying calendar entries and reporting on the "number of meetings scheduled" in "stat" and "login news".
- b. The message "selection error" is displayed if an erroneous key is hit while in the conflict frame.
- c. The message "working...please wait" is displayed when overriding a conflict (adding) in the conflict frame.
- d. A warning message is displayed when 390 calendar entries exist.
- e. OLD: If you try to add a prior entry that is contiguous with an existing entry (end time of new entry equals start time of existing entry) you get a conflict entry.
NEW: Contiguous entries are acceptable.
- f. OLD: If you affirm that an entry is a weekend, the entry is added and no conflict (if any) is displayed.
NEW: Conflicts for a weekend entry are displayed.
- g. "Working...please wait" has been added to all functions.
- h. OLD: No message is displayed if an unused function key is selected.
NEW: The message "Selection error" is displayed.
- i. A "calendar" name option has been added to allow checking of any other calendars in addition to the calendar "schedule".

9.2. LOGIN/STAT CALENDAR STATUS

- a. If you maintain a calendar, each time you login or execute the "stat" command and have a scheduled calendar meeting later in the day, a message of "next meeting at hhmm" is displayed informing you of the time (hhmm) of your next meeting for the day. The next meeting can only be an "unstarted meeting" and will not be an "active" meeting. A meeting "still in progress" is considered to have past and is not included in "the number of meetings scheduled".

- b. NOTE: The following is no longer applicable; it was superseded by later enhancements.

LOGIN NEWS: If you maintain a calendar, each time you login and have meetings scheduled (or "in progress") from that time on for the rest of the day,

"x" meetings scheduled today
is displayed.

9.3. ADD/SEE/UPDATE CALENDAR ENTRY - acal, rcal, cale

9.3.1. Conflicts

9.3.1.1. Deleting Conflicts

When adding a new calendar entry or updating an existing entry, up to twenty conflicts are displayed in the conflict window. After viewing conflicts, the user now has the option (key 3) to "Add and delete conflict(s)". This option adds the new or updated entry to your calendar and at the same time deletes all conflicts from your calendar. If there are more than 20 conflicts, only the first 20 conflicts are deleted.

9.3.1.2. Scheduling Conflicts Display

The "add new entry" and "see/update existing entry" frames now have a window that displays conflicts when adding or updating an entry. All conflicts can be viewed in this window (paging ahead and back); then a choice of "add with conflicts" or "don't add" can be made.

9.3.2. Forwarding a Calendar Entry

The "add new entry" and "see/update existing entry" frames have an option to send a mail message containing the calendar entry to other users' mailboxes. An entry that has been added to your calendar may be sent to other TOFACS users (or an entry can be sent to users without entering it into your calendar).

9.3.3. Automatic Cursor Advance

When filling in fields for "add new entry" and modifying an entry in "see/update existing entry", the cursor automatically moves to the next field after the last character of a field is filled in and the first character of the next field is typed.

9.3.4. Weekend Option for Multi-Day Entries

When adding multiple day entries in "add new entry" frame and when updating an entry to multiple day entries in "see/update existing entry", there is an option to "include" or "not include" the weekend within the desired sequence of days.

9.3.5. Multiple-Day Entry Update

If you add a multiple day entry, the entries you add to your calendar become consecutive single day entries in your calendar. To update such an entry, delete all but the first days entry, then modify that entry to reflect the desired entries.

9.3.6. Print

In the see/update frame, the print function now has two options:

condensed=4 - Print condensed format for those entries marked
complete=5 - Print each complete entry for those marked

9.3.7. Add Entry and Clear Data

OLD: When you add a new entry by using "Key 2 - Add entry, clear data", the data is cleared if there is an error in one of the fields.

NEW: The data is retained.

9.3.8. Miscellaneous

- a. OLD: You cannot perform consecutive updates to the same entry.
NEW: You can perform consecutive updates to the same entry.
- b. The "working...please wait" message when adding calendar entries is now displayed a bit faster.
- c. The "working... please wait" message has been added to "acal" and the "add and update functions" in "cale" and "rcal".

- d. OLD: After filling in field data, going to the help frame, and returning, the field data is lost.
NEW: The field data is retained.
- e. OLD: If you see/update entire list option with nothing scheduled, the message: "calendar exists" is displayed.
NEW: The message "nothing scheduled" is displayed.

9.4. READ CALENDAR - rcal

9.4.1. "rcal today"

The command line option "rcal today" has been added. By typing in "rcal today" all calendar entries for the current day are available for reading. Those calendar entries not yet past are displayed. Entries already past can be viewed by hitting key 8 - previous page.

9.4.2. Miscellaneous

- a. A "paging" function (Key 7 and Key 8) has been added to allow the calendar entries to be advanced a page (8 entries) at a time.
- b. The cursor remains at the same location after returning from "see/update", "delete" and "help" frames.

9.5. MEETING SCHEDULAR - msch

- a. The meeting scheduler frame has been changed to improve readability. In addition, the "Purpose" and "Location" fields have been removed.
- b. The meeting scheduler has added "Key 4 - Add new calendar entry" which brings up the "New Calendar Entry" frame.

9.6. ADDING MAILED ENTRIES TO CALENDAR

9.6.1. Adding Forwarded Entries

A forwarded calendar entry received via mail may be added into your calendar automatically. When you read a mail message that is a "fwd: calendar entry", the message "Key PF1 - schedule the entry to calendar" is displayed in the top right portion of the frame. To schedule the forwarded entry into your calendar, hit key PF1. The following actions take place depending on whether or not there are conflicts or the entry includes a weekend:

NO CONFLICT AND NOT A WEEKEND ENTRY

- stay in the read message frame
- display "working... please wait"
- enter entry into calendar and display "calendar entry added" when complete
- you then must exit or go to next message, etc.

CONFLICT(S) OR WEEKEND ENTRY

- display "working... please wait"
- "add calendar entry" frame is displayed
- if it is a weekend entry, the "weekend, affirm: yes=9, no=0" message is displayed and you must hit key 9 or 0 to affirm the weekend entry
- if there are conflicts, you must use the sub-window function keys; the sub-window displays each conflict as needed; hit one of the sub-window keys to either add or don't add the entry;
- once you have acted upon the conflict or weekend affirmation, you may use any of the frame keys at the bottom; key 0 - exit brings you back to the forwarded message; from there you can either reply to the message, go to the next message, etc.

9.6.2. Meeting Confirmation Receipt

If you forward a calendar entry to another user who in turn enters that forwarded entry into his/her own calendar, you receive a receipt message back. This receipt message has a subject field of "meeting confirmation" and the body of the message is the forwarded calendar entry that you originally sent. This receipt informs you (the originator) of "what meeting is being confirmed". If the receiver of a forwarded calendar entry does not enter that entry into his/her own calendar, no receipt is sent to the originator.

9.6.3. Mail and Calendar Interaction

If you are reading a forwarded calendar entry (using rmsg) and hit key PF1 to add,

- a. if there are no conflicts, the entry is added, the message "calendar entry added" is displayed, the message "working...please wait" is displayed, and you then go to the next marked message or back to the list of messages.

- b. if there are conflicts, the conflict calendar frame is displayed;
 - if you add the entry, the entry is added, the message "calendar entry added" is displayed, the message "working...please wait" is displayed, and you then go to the next marked message or back to the list of messages.
 - if you don't add the entry, you are returned back to the forwarded calendar message to have the opportunity to reply to the sender (originator) of the message.

10. DIRECTORIES - dir

The main significant enhancement made to the directory module was redesigning its display format and internal structure. This made "dir" easier to use and at the same time improved its overall efficiency/response.

- a. If a user types in a directory that doesn't exist and hits key 8 to view/change permissions, the "No such directory" error message is displayed.
- b. While in the records satisfying request frame of the directory function, the PF4 function key now works properly.
- c. When deleting an entry, the option "are you sure" has been added.
- d. It has been redesigned and is now more efficient to use.
- e. The directory files will no longer be "locked".
- f. Users can now search records via the "note" field in addition to the "name", "position", and "organization" fields.

11. TICKLER

No significant mods have been made to the tickler module. However, work on a completely new tickler module is nearing completion. The new tickler module will have new capabilities, improved functionality, better internal formats for improved efficiency and response, and be more compatible with the way the other TOFACS modules are used.

- a. OLD: If you use the PF4 key to exit from the frame that displays the current actions, you still get the "new actions due" message/notice.

NEW: You get "actions due".

- b. Two new commands (rtick and stick) have been added. They are only available through the TOFACS command mode. They simply access the "read tickler" and "send tickler" functions of the tickler function.

rtick reads pending tickler actions.

stick sends a new item.

12. PHONE

Only minor mods have been made to the phone module. "rph", "sph" and "rvph" are each fairly basic in use and have not required much work.

Read phone messages (rph) and review phone messages (rvph):

- a. MARK AND READ - Calls must now be marked first before the read key is hit. Hitting the read key without marking a call now displays an error message.
- b. UNMARK - The unmark option (key 3) has been added to the mark/read frame.
- c. Marked calls remain marked (in reverse video) after return from the mark/read frame.
- d. Cursor motion has been improved when displaying the first marked call in the mark/read frame.
- e. Cursor motion has been improved after return from the mark/read frame.

13. MAIL CALENDAR/TICKLER/PHONE/GRAFFITI STATUS - stat

The capabilities of "stat" have been improved and added to based on additions and improvements of the other TOFACS modules that "stat" reports on.

a. NEW RGFT STATUS FOR STAT

OLD: For the "rgft" status, the "stat" command reports the date and time of any change to rgft, including deletions.

NEW: The "stat" command reports the date and time that the last item was added to "rgft".

b. NEXT CALENDAR MEETING

If you maintain a calendar, each time you login or execute the "stat" command and have a scheduled calendar meeting later in the day, the following info is displayed (in addition to mail, tickler, phone, and graffiti news):

1. "x" meetings scheduled today
next meeting at "hhmm"

or

2. No meetings scheduled today
"x" is the number of meetings you have scheduled for the rest of the day. "hhmm" is the hour/minute designation of your next scheduled meeting. The next meeting can only be an "unstarted meeting" and will not be an "active" meeting. A meeting "still in progress" is considered to have past and is not included in "the number of meetings scheduled".

- c. NOTE: The following is no longer applicable; it was superseded by later enhancements.

If you maintain a calendar, each time you execute the "stat" command, the following info is displayed (in addition to mail, tickler, phone, and graffiti news):

1. "x" meetings scheduled today
or

2. No meetings scheduled today

"x" is the number of meetings you have scheduled for the rest of the day (including those that have already started but are not yet scheduled as finished). If you have nothing scheduled or "in progress", then "No meetings scheduled today" is displayed.

- d. OLD: In some cases, the "You have new call" message is erroneous. NEW: "stat" correctly reports your phone call status.
- e. This is a new command and it enables the user to get the current status of his/her mail box, phone messages, and pending tickler actions. Stat tells the user whether or not he/she has new mail, new phone messages, or new actions due. It also indicates the time and date of the last update (addition, deletion, or modification) to rgft.

14. BULLETIN BOARD - rbb

The functionality and basic use of the Bulletin Board has remained unchanged since its development and implementation by TOFACS. The current

Bulletin Board mainly serves as a repository of TOFACS related news, information, etc. of general and specific importance to users. The Bulletin Board module has the capability of being a central repository of information that would be of interest to various subsets of DTNSRDC employees.

- a. 18 Bulletin Board has been reorganized. There are now only four sections: admin, tech, divisions, and misc. Previous sections special, tsupport, and secy have been deleted and their info has been incorporated into the remaining sections. To use 18 BB one of three command options is available:

rbb

rbb 18

rbb 18 "section name" (where "section name" is
admin, tech, divisions, or misc)

- b. A new TOFACS command - rbb - is now available for general use and allows users to select and review information from various bulletin boards. There are two bulletin boards available: (1) tofac and (2) 18.

rbb can be accessed through the TOFACS command mode:

rbb - Read bulletin boards. For details please type rbb
after the \$ prompt, wait for the screen to fill up, then press
function key 1 for help.

Use of rbb is accomplished in one of three possible ways:

1. rbb
2. rbb [bulletin board name]
3. rbb [bulletin board name] [bulletin board section name]

rbb can also be accessed through the main TOFACS user-friendly menu:

1. After the \$ prompt, type "t" for TOFACS menu.
2. Press function key 8 - Bulletin Board to use rbb.
3. Wait for screen to fill up, then press function key 1 for help.

15. TOFACSGRAM - tgram & ptgram

A new TOFACSGRAM capability is now available to all users. A TOFACSGRAM relays TOFACS news to users in a quick and simple fashion. To view the latest TOFACSGRAM type "tgram" at the \$ prompt. Hit the space bar to page forward and hit the "DEL" or "RBOU" key to abort. To print the latest TOFACSGRAM on your local printer type "ptgram" at the prompt.

16. GRAFFITI - rgft

The functionality and basic use of graffiti has remained unchanged. There has been no need to improve the graffiti module.

- a. OLD: When reading a mail message or graffiti and scrolling by the RETURN key, displaying of tabbed information gets garbled.
NEW: Tabbed information is displayed correctly.
- b. LONGER DATA LINES IN MAIL AND GRAFFITI
OLD: Mail and graffiti truncate lines longer than 80 columns that were created using editors with line capacity up to 256 characters.
NEW: When reading mail or graffiti, header and text lines received may be up to 256 characters/line. Mail and graffiti folds and displays lines greater than 80 columns and less than 257 columns.
- c. The graffiti function now allows the rgft administrator to file mail messages.

17. LOCK/SECURE TERMINAL - tlock

A new TOFACS command is available (tlock) to lock/secure your terminal when you are logged into TOFACS and need to leave your office for a brief period (a few minutes). The tlock command enables a user to lock/secure his/her terminal, remain logged in, prevent access by anyone else, and unlock the terminal and return to TOFACS. This feature makes it easy for users to adhere to published security regulations which dictate that terminals must be secured at all times. tlock functions in the following manner:

- a. tlock (typed by user at the prompt (command level)).
- b. TOFACS responds with: "Enter private word to lock this terminal":
Select a private word of your own choosing. This private word should be one that no one else would guess.

- c. Type in private word followed by a carriage return.
- d. TOFACS responds with: "Re-enter private word for confirmation".
- e. Repeat c.
- f. If there is not a match between c. & e., tlock aborts and returns you to the prompt.
- g. If there is a match between c. & e., TOFACS responds with:
"Terminal locked; To unlock terminal, enter private word:"
- h. To gain access to your terminal, type the same private word typed in c. & e. followed by a carriage return.
- i. If you type anything but the private word, your terminal remains locked.
- j. When you type the correct private word followed by a carriage return, TOFACS responds with: "Unlocking terminal; Returning to TOFACS".
The prompt appears, your terminal is unlocked, and you are back at the prompt and able to access TOFACS.

If you leave your terminal locked/secured for 15 minutes, TOFACS automatically disconnects you.

18. MIS/TOFACS INTERFACE - mis

The TOFACS mis interface allows TOFACS users to connect to Code 60's Management Information System. This was/is a joint effort between TOFACS and Code 60 and has thus provided more users with the capability to access and/or capture reports available in the Management Information System.

18.1. IMPROVED ACCESS/CONNECT/DISCONNECT PROCEDURES

Further "mis" enhancements have been implemented to improve the access/connect/disconnect procedures between the TOFACS computers and Code 60 Vax computer. The new TOFACS/MIS hand-shaking protocols between processors include error trapping, improved logout/disconnect procedures, and improved login timing alarms for better mis access.

- In conjunction with Code 6080, "mis" access/connect/disconnect procedures have been improved by enhancing the TOFACS/MIS hand-shaking protocols between processors.
- EXIT - When users EXIT a secondary level within mis they are now returned to the primary level to permit continued processing within mis.

- MESSAGES - Several new and improved message displays have been added to better inform users of the status of TOFACS/MIS.
 - AUTO-LOGOUT - If a user is inactive for more than five minutes the user is automatically logged out of mis and returned to TOFACS.
- The following message is displayed:

Returning to TOFACS due to inactivity.
 Connection to MIS terminated due to inactivity.

18.2. WHAT'S AVAILABLE

"mis" connects you to Code 60's Management Information System. While in "mis", you may view or print reports and also store a session (or part of one) in a TOFACS file/doc. Following is a brief top-level summary of what reporting information is available within "mis":

- CONTRACTS - A reporting system whose data is extracted from the accounting data base. This data base contains all cost, obligation, payment, and travel information for contract numbers and their stubs. The data base is updated simultaneously with the input from Supply. The data base is updated on a real time basis with the input from Accounting and Disbursing.
- DETAIL - A reporting system whose data is extracted from the labor and material data base. This data base contains all commitment, obligation, and cost (labor and material) transactions which occurred during the previous week (only!). All reports from this data base are patterned after the Cumulative Labor Material Detail by Department report.
- JOCHK - A query system which performs various validation checks on a specific joborder # or PMS id. The validation file being queried is updated nightly with the latest data from the sponsor order system, the workunit system, the PMS system, and the personnel employee system.
- SUPPLY - A reporting system whose data is extracted from the supply data base. This data base contains all contract, purchase order, and stub number data. The data base is updated on a real-time basis with input from the Supply Department.

- WORKUNIT - A reporting system whose data is extracted from the workunit data base. This data base is the repository for year-to-date cumulative commitments, obligations, and costs (labor and material) incurred by the joborder numbers established through the Budget Division of the Financial Department.

UPDATE: There are two lines for tofacsa (Vax A/01), two lines for dtro (Vax B/02) and four lines for tofacsc (Vax C/03).

18.3. TRANSFER OF MIS REPORTS TO TOFACS

"mis" now allows a user to collect mis reports and store them in a TOFACS file/document.

18.3.1. Access and View Reports

If you do not wish to save any session (or part of a session), continue processing as before and type "EXIT" when you are done. This automatically brings you directly back to TOFACS without having to type in "~BYE" or "^D".

18.3.2. Access Data/Reports, View and Retain Data/Reports

You may now save financial reports on TOFACS for future reference and use. If you wish to save a session (or part of a session), type "TON" after the list of options is displayed. You are then asked to specify a TOFACS file and document through a series of queries. If a file does not exist you are asked whether or not you wish to create it. If a document already exists, you are given the option to append to it, overwrite it, or cancel the TON request. After you have successfully specified a file and document name, everything displayed on the screen is saved in that file/doc until you type "TOFF" when the list of options is displayed. In this way you can save an entire session by first typing "TON" when the list of options is displayed or you can be selective in what you save by typing "TON" and "TOFF" at the appropriate places. It is recommended that you save only the fiscal financial reports that you need for future reference on TOFACS. Remember that storage on TOFACS is critical so try to save only the info you need.

When you type "EXIT", you are automatically brought back to TOFACS without having to type "~BYE" or "^D".

18.4. FORMERLY "fiscal"

NOTE: THIS COMMAND IS NO LONGER AVAILABLE SINCE IT HAS BEEN INCORPORATED INTO THE "mis" CAPABILITY.

Limited supply reports are now available from the Financial Management Reporting System. These reports may be accessed thru the TOFACS "fiscal" command.

"fiscal" is a new command that permits TOFACS users to access financial reports (the Management Reporting System (MRS)) on the MIS/VAX computer. Selected TOFACS users have been identified to MRS for access via "fiscal". TOFACS automatically passes your identity to MRS so that it can validate your access permission. If a user is prompted by "Password:" when attempting to use command "fiscal", that individual does not have access permission to MRS. In that event, please contact Code 60 in order to determine if you can be granted access permission.

After you have typed "fiscal" and been accepted as a valid user, you are no longer in TOFACS but are in MRS on the MIS/VAX computer. Ten different reports can be displayed using MRS.

While you are in MRS, you must understand and follow its conventions. To exit from MRS you must type in "EXIT" at one of the prompts. MRS then displays the message "See you later" and displays a logout message (with date and time). At this point you are no longer in MRS and must type "<CTRL>D" to get back to TOFACS. If you have any questions, comments, or problems using MRS, please call Code 6082, Ext: 71127/71152/71184/71915.

18.5. FORMERLY "supply"

NOTE: THIS COMMAND IS NO LONGER AVAILABLE SINCE IT HAS BEEN INCORPORATED INTO THE "mis" CAPABILITY.

EXIT FROM SUPPLY - To exit from the "supply" command and get back to TOFACS, you must type in "~BYE". If you are using the "supply" command thru TOFACS and are on the MITRENET, DO NOT get off the net without typing "~BYE". If you fail to type in "~BYE" the connect port assumes you are still connected and will not allow another user access to that port. This command is now also available on VAX B. This command enables a TOFACS user to automatically connect to the supply system on the Burroughs computer. There is currently only one line available.

If you are familiar with the access procedures to the Burroughs supply system, type supply after the \$ prompt for access to the supply system through TOFACS.

The DTNSRDC supply system is an online information management system which is designed to track procurement requests and actions throughout the entire procurement process cycle. If you need a copy of The DTNSRDC Supply System Reports Manual, please contact Code 60.

19. WORD PROCESSING DOCUMENT TRANSFER - wp

Due to the proliferation of various Word Processors at DTNSRDC, it became evident that there was a need to transfer information among specific Word Processors and/or TOFACS. This need led to the development of the "wp" transfer program which enables the transfer of information between two specific Word Processors or between a specific Word Processor and TOFACS. After completing a study of the most used Word Processors at DTNSRDC, TOFACS developed "wp" with a transfer capability for a standard set of DTNSRDC Word Processors.

19.1. OVERALL

The "wp" Transfer Program allows for the transfer of documents from existing Word Processor disks to TOFACS files/documents and the transfer of existing TOFACS files/documents to Word Processor disks, utilizing a Menu Selection process similar to other TOFACS utilities, with HELP available at every Menu frame. Typical uses of "wp" would be to create/edit a document on TOFACS and then transfer it to a word processor for formatting and/or letter-quality printing, to create and edit documents on a word processor and store them on the TOFACS system, or to create a document on one word processor and then transfer it to a user who uses a different type of word processor. Your TOFACS representative can provide more information, including documentation.

Since the "translation" exists within TOFACS, you may send a document created on one Word Processor to a TOFACS file, then receive the document from TOFACS onto a different Word Processor. Successful use of the "wp" Transfer Program requires one only to follow the Menu and be aware of the following constraints:

- a. A Word Processor must have Asynchronous ASCII Communication capabilities.
- b. "wp" presently only works with Vydec, Lexitron, CPT, IBM Display Writer and DEC (Digital Equipment Corporation) Word Processors. In addition the Hewlett-Packard, HP-9836, an intelligent processor with word processing capabilities, can access and use "wp".
- c. "wp" is limited to the transfer of documents to other TOFACS users on the same Host Processor, i.e. users on VAX A cannot transfer documents to users on VAX B.

A significant number of enhancements have been made to the "wp" transfer program: improved frame management, more descriptive menus, new and more informative message displays, HP-9836 mods, DECMATE-II mods, restructured internal help files, and some bug fixes.

19.2. HOW TO USE wp

TO ENTER THE wp PROGRAM

First create a ".filebox". (See 19.6)

Type "wp" followed by a carriage return.

Once wp has been typed in, the Menu gives further guidance on wp usage. If difficulty is experienced, try using the HELP command.

EXAMPLE OF USING wp

ASSUMING THAT YOU HAVE DIALED UP THE COMPUTER

STEP 1 - \$ login username <cr>

STEP 2 password (xxxxxx) <cr>

(System acknowledgement will follow)

(If you need to make a .filebox go to STEP 3 otherwise go to STEP 4)

STEP 3 \$ wpinit <cr> (See 19.6)

(System acknowledgement)

STEP 4 \$ wp <cr>

(Menu should start appearing at this point giving further instructions).

TOFACS support personnel have documentation describing "wp" in detail. They also have a set of procedures to follow for each specific word processor currently supported. For "wp" help/information/etc. please call the TOFACS office.

19.3. TRANSFER DOCUMENT(S) TO TOFACS DIRECTLY

An option, xfer (transfer) to TOFACS, has been added to the "Review Documents Menu" to allow the transfer of documents in the .filebox directly to TOFACS instead of to the Word Processor on which the user is working. To perform this function, execute the following steps:

- Go to the main menu of WP
- Select word processor in use
- Select "review" menu
- Select option #3 "receive document"

The "xfer" key shall provide the following:

- Select document ID to be received
- Specify TOFACS file/document for storage
- Respond to a request for next document

19.4. DOCUMENT ID RANGE DISPLAYED

For fileboxes with more than one document, the document ID range is displayed in the upper right hand corner of the menu listing.

19.5. DOCUMENT STATUS NEWS AT LOGIN - wpmmsg

A new command (wpmmsg) is now available only for users of wp. This command should be executed only once. From that point on each time the user logs in the user is informed if they have new unread (not yet received) documents in their filebox sent by TOFACS users other than themselves.

19.6. AUTOMATIC CREATION OF FILEBOX - wpinit

A new command (wpinit) is now available only for users of wp. This command should be executed only once. "wpinit" creates the .filebox directory along with the proper permissions.

19.7. ~ MARKING OF DOCUMENTS

Each document in the filebox is marked with a "~" until a document is displayed. Once the document is displayed the "~" is removed. The document status at login (for those who have done "wpmg") for new documents in a filebox is only displayed if a document exists in the filebox and has neither been received nor displayed.

19.8. SPECIAL FUNCTIONS

In the special functions frame, when one of the functions is chosen, the frame remains on the screen and any appropriate message displayed regarding the function chosen appears to the right of the Help option.

For example:

1- Help -> filebox is locked

2- ...

This conforms with standard TOFACS frame management. In addition, the message stays on the screen and the user then has to hit another function key or exit.

19.9. MAIN MENU

The second menu (main menu) now reads:

1- Help

2- Send Documents

{this is a change

3- Receive/Review Documents

{this is a change

4- Exit

PF4- Exit to Unix

The main menu screen has been divided in order to allow for at least six more word processors to be added to "wp".

19.10. DOCUMENT SENT

- a. The "working..." message is now displayed when a document is being sent.

- b. When a document is sent correctly, the message "Document sent" appears prior to the handling of the hang up, quit, interrupt, or termination signals.

19.11. DECMATE II

- a. The "Working please wait ..." statement has been removed from the Receive Menu.
- b. The "Working please wait ..." statement has been removed from the Send Menu.
- c. The "\r" statement following the "ID selection" statement in the Receive Menu has been removed and combined with the "ID selection" statement to print as follows (Exactly as shown):

After selecting the ID letters of the document to be received by the DECMate II, do not press <RETURN>. Instead, press \r to enter the DECMate II Communication menu, i.e., enter ID of document to be received by DECMate II followed by the character backslash (\) and lower case r (r) to enter DECMate II Communication menu (or 0 - exit, "WORD CHAR" - exit to UNIX)->

- d. In the Send Menu, the "Enter name for received version of document" statement has been modified and combined with a "\r" statement to print as follows (exactly as shown):

After entering the name of document for filebox listing, do not press <RETURN>. Instead, press \r to enter the DECMate II Communication menu, i.e., Enter Name of Document for Filebox Listing followed by the character backslash (\) and lower case r (r) to enter DECMate II Communication menu (or 0 - exit, 1 - Help, "WORD CHAR" - exit to UNIX)->

- e. The tab problem has been corrected.
- f. DX mode is now functional.
- g. The PF4 function (Exit to Unix) has been added.
- h. The WORD-char key in display menu has been added to stop displaying without exiting to Unix.

- i. The receiving (Document Transfer) frame now displays the following message after you have selected the document to transfer:

Press \r to enter DECmate II Communications Menu.

i.e., press the backslash character (\) followed by lowercase r (r).

19.12. HP - 9836

- a. Added the HP-9836 to "wp"
- b. Added tabs to tables to eliminate centering problems encountered by HP-9836 documents created on TOFACS.
- c. Inserted control sequences in the "New paragraph" entry table to eliminate the loss of the new line "\n" characters in HP-9836 documents received from TOFACS.

19.13. LEXITRON

- a. The <ATTN> key option has been added to the Exit to Unix option for the Lexitron since some models require this instead of <spec shift> + 2.
- b. Changed the Exit to Unix to "<SPEC SHIFT> & 2".

19.14. ".filebox"

Documents within the "wp" Program reside in your file called .filebox. This file, ".filebox" must be created before utilizing the "wp" Program.

NOTE: The following is no longer applicable; it was superseded by later enhancements. See 19.6.

To create ".filebox" perform the following procedures, at the \$ prompt, after login:

```
mkdir<space>.filebox
```

Observe that only lower case typing is used; that .filebox is only created once for each user. Once this file is created it remains in the computer for subsequent usage. Therefore one doesn't have to create .filebox for each use of "wp".

19.15. MISCELLANEOUS

- a. In the Send Menu, the statement "Enter user ID to send to ..." has been modified to "Enter user login name to send to..."
- b. In the Send Menu, the statement "Enter name of Received version of document..." has been modified to "Enter Document Name for filebox listing ..."
- c. In the Receive Menu, the statement "Enter ID of document to Receive ..." has been replaced by the three alternate statements:
 1. "Enter ID of document to be received by TOFACS ..." (For TOFACS users),
 2. (See 19.11)
 3. "Enter ID of document to be received by diskette ..." (for remaining word processors).
- d. Modify all help frames.

20. TRANSFER CDC FILES TO TOFACS VIA MASS STORE

The "msfetch" command has been added to TOFACS. msfetch enables a user to access the Mass Store unit and audit, fetch (retrieve) and/or delete Mass Store files. You can retrieve Mass Store files (or the output of an audit) into any TOFACS file/document specified by you. "msfetch" enables users to generate DBMS reports or other information via the utilities offered on the CDC mainframes and then transfer those reports or information to TOFACS for inclusion in mail messages and/or documents.

msfetch permits you to:

- Receive document in CDC Display Code as ASCII
- Receive document in CDC 12 bit ASCII as 8 bit (standard) ASCII
- Receive a bit for bit copy of the document
- Delete a file on the mass store
- Display audit of mass store files on screen
- Receive mass store audit into a TOFACS document
- Change mass store password

To access msfetch, at the prompt (\$, ->, %) type "msfetch" followed by a carriage return. You are then prompted to type in your CDC Mass Store "Username" and then your CDC Mass Store "Password":

```
$ msfetch
Login (Mass store)
Username: (type in your CDC Mass Store Username)
Password: (type in your CDC Mass Store Password)
```

If your Password is the same as your Username you are forced to change your Password to something else than your Username. After a valid Username/Password combination is entered, the msfetch menu appears. Please read the Help frame for msfetch. All vital information on using msfetch is found in this Help frame.

A few important msfetch notes:

1. msfetch is only available on tofacsa (Vax A/01) and dtre (Vax B/02) due to lack of direct hardware connections between tofacsc (Vax C/03) and the CDC Mass Store. A tofacsc msfetch capability is planned.
2. You must have a CDC Mass Store Username/Password to use msfetch.
3. Once an option is selected, msfetch is interactive, i.e. it prompts and waits for your response.
4. Use either the main keyboard numbers or the mini-keypad numbers for option selections.
5. Press the key and then the <RETURN> key to abort from anywhere in msfetch. Aborting takes several seconds to insure proper functioning of the hardware.
6. msfetch can only retrieve files up to a size of 500000 characters.
7. msfetch is terminal independent, e.g., it does not require VT100 emulation.

21. WRITE DEFAULT CHANGED

The "write" command enables one user to write/display text on another user's terminal while they are both logged in and thus begin an "electronic conversation". Due to user complaints about other users "write"ing to

them and disrupting their work, the default was changed. If a user prefers that others be able to "write" to him/her, he/she should change the "write" default to "yes". Please call the TOFACS office for help in changing the write default.

OLD: The default permission (yes) for "write"ing to another user permits any user to "write" to any other user on the same Vax while each user is logged in.

NEW: The default permission (no) for "write"ing to another user denies any other user from "write"ing to you.

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